Indian Academy of Pediatrics

PROCEEDINGS

of National Workshop on Undergraduate Pediatric Education

Smt. Jyotsnadevi Patel
Pediatric Centre
Medical College
JABALPUR

October 8 to 11, 1983

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Indian Academy of Pediatrics

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Smt. Jyotsnadevi Patel Pediatric Centre Medical College

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CONVENOR'S NOTE

Undergraduate medical education in general in this country continues to suffer in the absence of an organised curriculum, clearly defining a set of objectives, course content, teaching methods, student assessment and course evaluation. The undergraduate student finds himself in a predicament not different from that of the cat in "Alice in Wonderland".

> "Would you tell me please which way
> I ought to go from here"
> "That depends a good deal on where you
> want to go" said the cat
> "I don't much care where"...said Alice.
> "Then it does not matter which way you
> go", said the cat.
> "So long as I get some where",
> Alice added as an explanation
> "Oh you are sure to do that if you
> walk long enough" 'said the cat.....

Following introduction of Pediatrics as a subject for assessment at the final MBBS examination, it was appropriate that the I.A.P should undertake the exercise of preparing a curriculum plan relating to undergraduate training in Pediatrics. It is for the first time that a specialist association in this country has undertaken an exercise of this nature. The undersigned takes the opportunity to express his gratitude to the I.A.P. for having reposed trust in him and his colleagues in the department for carrying out the onerous responsibility of conducting a National Workshop with the specific objective of bringing out a cor crete set of recommendations, relating t undergraduate curriculum in pediatrics t assist student learning and provide guidelin in the methods of teaching and student asses ment.

The task of preparing a concrete curr culum plan in the space of three days was in deed daunting for the participants who repre sented various regions of the country and in cluded students. It was agreed that trainin relating to MCH and the period of internshi could form subjects for separate workshop and was therefore excluded from discussion i the present workshop.

I and my colleagues in the department on our own behalf and on behalf of the I.A.P. wish to express our appreciation and ackno wledge with gratitude the financial help ren dered towards successful conduct of the work shop by the Department of Science and Techo nology, Govt. of India, UNCEF, M. P. Coun cil of Science and Technology, Bhopal an other organisations, friends and well-wisher too numerous to list in this brief note.

The proceedings of the workshop wil form the subject of discussion at the plenar session on Undergraduate Pediatric Educatio scheduled for 28 th November at the XX National Conference of I. A. P. at Pune. It i hoped that the workshop, and plenary sessio will set the pace for many more exercises wit the objective of continued improvement i learning and teaching for the students and the faculty alike in the vitally important field o child health.

(K. K. Kaul)
Prof & Head
Department of Pediatrics
Medical College, Jabalpur

• LIST OF PARTICIPANTS •

Dr. (Mrs) Ananthakrishna, A.	:	Professor & Head Department of Pediatrics Kilpauk Medical College Madras.
Dr. Bhakoo O. N.	:	Professor of Neonatology Postgraduate Institute of Medical Science & Research Chandigarh.
Dr. (Miss) Chansoria, M.	:	Lecturer in Pediatrics Govt. Medical College, Jabalpur.
Dr. Dayal, R. S.	:	Professor Emeritus S. N. Medical College, Agra.
Dr. (Mrs) Desai, A B.	:	Superintendent & Prof. & Head Department of Pediatrics B. J. Medical College, Ahmedabad.
Dr. (Mrs) Deshpande, S.	:	Professor & Head Department of Obstetrics & Gynaecology, Govt. Medical College, Jabalpur.
Dr (Mrs) Guha, T.	:	Principal Regional Family Planning Training Centre, Jabalpur.
Dr. Harjeet Singh	:	Professor & Head Department of Pediatrics Medical College, Rohtak
Dr. Kaul, K. K.	:	Professor & Head Department of Pediatrics Govt. Medical College, Jabalpur.
Dr. (Miss) Kesaree, N.	:	Professor & Head Department of Pediatrics Medical College, Davengere.
Dr. Kini, Pratap	:	Associate Professor of Pediatrics Medical College Manipal.
Dr. Lal, Harbans	:	Professor & Head Department of pediatrics Medical College, Patiala.
Dr. Mittal, S. K.	:	Associate Professor of Pediatrics Maulana Azad Medical College New Delhi.
Dr. (Miss) Mukerjee, B.	:	Reader in Pediatrics Govt. Medical College, Jabalpur.

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Dr. Shrivastava, D. K.	:	Reader in Pediatrics Govt. Medical College, Jabalpur.
Dr. (Miss) Sunderavalli, N.	:	Additional Professor of Pediatrics Institute of Child Health Egmore, Madras.
Dr. Thora, S.	:	Lecturer in Pediatrics Govt. Medical College, Jabalpur.
Dr. Udani, P. M.	:	Director Professor of Pediatrics Grant Medical College, Bombay.
Dr. Walia, B. N. S.	:	Professor & Head Department of Pediatrics Postgraduate Institute of Medical Science & Research, Chandigarh.

STUDENT PARTICIPANTS

Dr. Chandrasekar, R	[Post graduate]	Madras
Dr. Kumar, Arun	[Post graduate]	Jabalpnr
Dr. Mukerji, S.	[Intern]	Jabalpur
Dr. Diwan, Ashish	[Under graduate]	Jabalpur

• PROGRAMME OF THE WORKSHOP •

SATURDAY, 8 OCTOBER

11.00 A. m. to 1.00 P. M.	REGISTRATION, LUNCH (Pediatric Centre)
1.00 P. M. to 2.00 P. M.	INAUGURATION (Anatomy Lecture Hall) Welcome : Dr. J. C. Gupta, Dean Inauguration : Dr. B. N. S. Walia Objectives of Workshop & working arrangements : Dr. K. K. Kaul Thanks : Dr. D. K. Shrivastava
2.00 P. M. to 4,00 P. M. [Pediatric Centre]	OBJECTIVES OF UNDERGRADUATE PEDIATRIC EDUCATION Introductory Remarks : Prof. B. N. S. Walia Group Discussion (Group A, B & C) Presentation of Group Reports (Group A, B & C) DISCUSSION (Plenary) RECOMMENDATIONS
7.00 P. M. to 9.00 P. M.	Variety Entertainment (Medical College Auditorium, Jabalpur)
9.00 P. M.	— DINNER Pediatric Centre : Medical College, Jabalpur.

Sunday, 9 October , 1983

9.00 A. M. to 10.00 A. M.	— COURSE CONTENT Introductory remarks (Knowledge/Attitudes) Introduetory remarks (Skills/Attitudes) Dr. P. M. Udani Dr. (Mrs.) A. B. Desai
10.00 A. M. to 1.00 P. M.	— GROUP DISCUSSION [A, B & C]
1.00 P. M. to 2.00 P. M.	— LUNCH
2.00 P. M. to 4.00 P. M.	— Presentation of Group reports (A, B & C) DISCUSSION [Plenary]
4.00 P. M. to 5.00 P. M.	— RECOMMENDATIONS
9.00 P. M.	— DINNER AT J. N. K. V. V. guest house

Monday, 10 October 1983

9.00 A. M. to 9.45 A. M.	— TEACHING METHODS Introductory Remarks : Dr. R. S. Dayal
9.45 A. M. to 11.30 A. M.	— GROUP DISCUSSION [A, B & C]
11.30 A. M. to 1.00 P. M.	— Presentation of Group Reports (A, B & C) Discussion (Plenary) RECOMMENDATIONS
1.00 P. M. to 2.00 P. M.	– LUNCH
2.00 P. M. to 3.45 P. M.	— STUDENT ASSESSMENT Introductory Remarks Dr. Harjeet Singh GROUP DISCUSSION (A, B & C)
3.45 P. M. to 5.00 P. M.	— Presentation of Group Reports [A, B & C] Discussion (Plenary) RECOMMENDATIONS
9.00 P. M.	— DINNER AT J. N. K. V. V. GUEST HOUSE

Tuesday, 11 October 1983

8.30 A. M. to 9.15 A. M.	— COURSE EVALUATION Discussion And Recommendations
9.15 A. M. to 10.45 A. M.	— FINAL RECOMMENDATIONS
10.45 A. M. to 11.00 A. M.	— TEA & VALEDICTORY FUNCTION

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• REPORT OF DAILY PROCEEDINGS •

Day one—8th October 1983
Subject—Inaugural Session

The inaugural session on the afternoon of October 8 was held at Medical College Jabalpur where-participants, faculty members from all departments of the college, representatives of the local press and All India Radio were present. The session began with a welcome by Prof. J. C. Gupta, officiating Dean, followed by the inaugural address by Prof, B. N. S. Walia, President, I. A. P.

Prof. Walia in his address with slides showing figures and cartoons, very effectively highlighted the plight of children and the inadequate services provided to them,bringing out in a poignant manner, weaker areas needing attention and the dangers that could result from complacence.

Summary of talk by Dr. B. N. S. Walia

Children constitute 42% of the population of our country. The fact that infant mortality rate stands at the staggeringly high figure of 129 and that it has remained unaffected by the advances and developments of the last 50 years, is a matter of anxiety for everyone who professes concern for the future of the nation. The merger of child health with the family planning programme did not result in advancement of child health because of two factors. Firstly, the target oriented family welfare programme was always a source of pressure to the staff, goading them to achieve the targets of contraception under the family welfare programme. In contrast there were no targets set for maternal and child health, and no awards to be won. Secondly, the staff enagaged in the programme were mainly trained for family welfare programme and not for health needs of children.

Significant decisions have been taken in the last two years, which are bound to have a great impact on the future of child health and of the nation. These decisions pertain to the inclusions of programmes related to children and their welfare in the Prime Minister's 20 Point Programme wherein Point 13 refers to promotion of family planning, Point 14 refers to universal primary care health facilities and Point 15 to acceleration of programmes of welfare and nutrition for women and children. Another significant development has been the preparation of the document on India's Health Policy which has been debated and discussed by the Parliament. The document goes on to record that "The highest priority would require to be devoted to efforts of launching special programmes for the improvement of maternal and child health. In addition, the immunization programme, school health programme and health education programmes envisaged in the health policy document are bound to have a palpable impact on the problem of child survival. The

battle plans for the war against disease and death have been well laid but wars are not won by plans alone. A trained force well equipped with modern armaments is essential for victory. It is hoped that the Government would follow up its decisions with instructions of how curricula and training programmes for training of para-medical workers, basic doctors and pediatricians, would make it possible for these plans to succeed. The Indian Academy of Pediatrics promises its total commitment to the Government in its noble task of preserving the health and lives of the nation's children, which are its best resource, so that we may participate in the great task of building a happier, healthier nation.

Prof. K. K. Kaul, Convenor, explained the purpose of the workshop, which was to prepare a curriculum for the undergraduate students. The objective of the workshop was to bring out a concrete set of recommendations for undergraduate training in pediatrics defining the objectives, course content, teaching methods, student assessment and course evaluatian in the context of national needs and constraints. This exercise is absolutely essential in the absence of any defined curriculum available for undergraduate teaching. It is desirable to conduct many such exercise as an on-going effort in improving teaching-learning in child health, as demanded by changing needs of the society. The recommendations emerging from these deliberations, it is hoped, would serve as guidelines to students in their learning and to the faculty in teaching and student assessment

The inaugural session ended with expressions of thanks by Dr. D. K. Shrivastava Chairman Scientific Committee.

Day one—8th October '83 (Continued)

Subject—Objectives of Pediatric Education.

Speakers—Dr. P. M. Uadni
Dr. B. N. S. Walia

Summary of talk by Dr. P. M. Udani—

"Objectives of undergraduate Pediatric education".

The objectives of Pediatric education were introduced with a historical review of the development of pedeatric education from a single unit nidus to its present day status. The overall national objectives should encompass all spheres to fulfil, primarily the health needs of a community by acquistion of knowledge, skills and a positive attitude to manage common, relevant , child health problems. Individual or personal objetives emphasised were, that the basic doctor should be imbued with an attitude for continuous learning & strive for excellence which should be balanced by his aim to achieve wide coverage. Thus, pediatric education should provide an environment and opportunities to develop such an attitude in the basic doctor, to help him in his even changing job role as a member of the health team. His scientific approach should be conglomerate with humanitarian considerations, a desire to communicate and tolerence while dealing with parents and children entrusted to his care.

Summary of talk by Dr. B. N. S. Walia—

"Objectives of undergraduate Pediatric education"

The ultimate objective of medical education is to train a good basic doctor. These should be clearly spelt out; as to what he should know and be able to do. How to teach him these and evolve an evaluation method to assess his attitude along with knowledge and skills, in the environment that he is expected to work in.

The magnitude of the responsibility that the basic doctor has and his innumerable job roles were highlighted. Thus the training should impart knowledge, skills and change his attitude to enable him to adequately evaluate the normal and sick child, detect deviations from the normal at all ages and to prevent, treat and manage these problems in the environment that he works in. During his training he should also acquire the skills of self education and evaluation to recognise his limitations and seek help when required.. He should be able to communicate at all levels and situations and inculcate the habit of continued education.

Objectives should not be static but changing and revised from time to time, with higher goals set each time. Adequate weightage to the opinion of the student and junior doctors should be given when planning curriculum objectives.

Day two—9th October '83

Subject—Course Content of Pediatric Undergraduate Education

Speakers—Dr. Mrs. A. B. Desai
Dr. P. M. Udani

Summary of talk by Dr. Mrs. A. B. Desai-

"Course Content related to knowledge"

A pediatric curriculum should provide the basic knowledge to enable a graduate doctor to provide comprehensive minimal health care to a child in the community. The demographic profile emphasising the need for a doctor to function as a team leader, clinician, teacher and social reformer for the promotion of child life and health was reviewed. During the course, situation where knowledge can be imparted are didactic lectures, clinics, tutorials etc. While skills and attitudes are acquired at field situations and clinics. The knowledge in all areas should be at three levels--preventive promotive and curative, not the latter alone. Detailed review of the undergraduate pediatric curriculum of the B. J. Medical College Ahmedabad was presented along with a historical background of its evolution.

Summary of talk by Dr. P.M. Udani—"Course content related to skills". The skills to be imparted during the undergraduate training course, should include primarily the skill of

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working as a member of the health care delivery team in co-ordination with community members. The basic doctor should also be able to appreciate community dynamics its pathology [related to health] its management and inter relationship with other areas of development. The skill of detection of abnormalities and ability to provide remideal measures for the health care needs of the child in its natural milieu, must also be acquired during the course. Other areas of skill viz, evaluating age dependant variables, normal and abnormal, the management of common disorders with in a short time, [e. g. O. P. D.] and in depth studies [e. g. indoor patients] along with emergency management and extra mural community pediatric organization, should be incorporated in the course.

A few constraints of implementation of curriculum in the present day situation and advantages of integrated inter—departmental teaching of the undergraduate students were also outlined.

Note—Speeial comments on teaching neonatology to the undergraduate student was given by Dr. O. N. Bhakoo and on the social aspect by Dr. Mrs. T. Guha.

Day three—10th October '83

Subject—[i] Teaching methods
[ii] Student Assessment and Course Evaluation.

Speakers—Dr. R. S. Dayal
Dr. Harjeet singh

Summary of talk by Dr. R. S. Dayal—
"Teaching Methods"

Teaching methods in ancient India in the form of inscriptions on stone pillars appear from the time of King Ashoka. Ancient teachings were a harmonious interaction between the teacher "guru" and tne students—"sishya". The modern teaching methods employed e. g. diadactic lectures, clinics, seminars teaching in rural centres etc, were reviewed for their advantages and and disadvantages. Then various teaching aids were evaluated for their utility, availability, applicability and cost benefit with a reminder that the best teaching aid is still "the black board and a firm piece of chalk" Concluding comments were that the ultimate phytosopny of any teaching is as Confucious said—"The essence of knowledge is having it, to apply it".

Summary of talk by Dr. Harjeet Singh—
"Student Assessment and Course Evaluation'

Students assesssment and course evaluation are the most important aspects of curriculum planning. The basic premise of any educational system, is that, the nature and magnitude of its consequences are desirable for the society. Thus an obiective method must be evolved to certify to the society the competence and character of each graduate doctor. The assessment of both the student and curriculum should be continuous and an integral part of the education system. The evaluation technique must be reliable, valid, practical and sufficiently objective to overcome [as far as possible] human shortcomings. Method in presentday use like essay type questions, M.C.Q.[multiple choice question] and P.M.P. [patient management problems] were reviewed for their merits and demesits Concluding comments were that the evaluation must be guided by; first clearly defining instructional objectives, then specification tables worked out of the minimum outcome expected in each field of knowledge, skill and attitude.

NOTE:—It was repeatedly brought out that opportunities should be provided to teachers to improve their competence through fellowships, teacher-training programmes, workshops etc.

• RECOMMENDATIONS •

I OBJECTIVES

Objectives that relate to undergraduate medical education in general, also apply to pediatric education. However, in view of special reqrirements of training in child health care emphasis needs to be laid on certain specific objectives. The group discussion which endeavoured to define these objectives came to the following conclusions in the form of their final recommendations.

(a) It was agreed that a common set of national objectives, modified by local needs be available for training in child health. Such objectives should take into account the limitations of time staff and equipment.

(b) Growth and development being the essence of child health, the training should emphasise normal growth and development as an indicator of health, any deviation being recognised as ill-health.

(c) The training should emphasise prevention of disease, effective promotion of health and care of common illnesses of infancy and childhood in their social, economic and cultural context.

(d) The inter-relationships between illness in the context of the family and environment and that the child and mother are one inseperable unit should be understood—thus emphasising the totality of care in health and disease.

(e) The student should be able to appreciate his limitations and seek assistance when required.

(f) The training should attempt at inculcating among the students the ability to appreciate the role of a doctor as a manager, teacher and organiser within the community entrusted to his care. His ability should therefore include the development of skills of communication and education.

(g) The student should be imbued with the spirit of self-improvement in knowledge and skills in his day to day work.

II COURSE CONTENT

Since learning related to child health care involves several disciplines preclinical, paraclinical and clinical, with considerable overlap in their course content, it can not be taught in isolation. Thus teaching of pediatrics cannot be done in the department of pediatrics alone. The group therefore strongly felt the need for having curriculum committees in all medical colleges with the head of the institution acting as chairman in order to achieve integration between departments for better teaching of child health.

A considerable part of the course content including growth and development, age-dependent variations in structure and functions in a normal child, pathologic and immunologic responses etc., should be taught by the faculty in the related basic disciplines in collaboration with pediatric teachers during the period of pre and para-clinical training.

While curriculum organisation could vary from one institution to another depending upon the overall curricular structure and local convenience, the training programme should have a structured course with formal opening and closing sessions. The opening session should introduce the subject and outline its scope, explain training arrangements and the role of students in it; the closing session should, apart from student assessment, include course evaluation through student feed-back and discussions with the pediatric faculty.

The course content recommended in the areas of knowledge and skills is as under :

KNOWLEDGE

1. GROWTH & DEVELOPMENT— Definition, parameters of growth, principles of growth, factors affecting physical growth, anthropometry (height, weight, arm and chest circumferences). Longitudinal growth and growth monitoring, weight charts, elocity of growth, growth centiles, physical and sexual growth at adolescence and sex differences in growth. Appreciation of and simple methods of screening children under three. Intelligence its meaning and principles of assessment.

The knowledge of growth and development should be essentially clinically oriented.

2. NUTRITION

— Normal requirements of essential nutrients from birth to puberty.

— Breast feeding, physiology of lactation, composition of human milk, advantages, techniques, socio-cultural factors, pattern of normal stool in breast-fed babies.

— Normal nutritional values of common foods used in the region. Breast milk versus animal milk, hazards of tinned milk and the feeding bottle.

— Prevalence,incidence, etiopathogenesis and clinical recognition of deficiency disorders. Dietary management in health and disease including various grades,and types of PEM, Vitamin deficiencies,anaemia, goitre (where prevalent), their management in hospital health centre and home.

— Beliefs, customs, fallacies related to foods, and breast feeding.

— Principles of appropriate weaning foods, locally available, home-made and cheap.

— A brief outline of national nutrition and related programmes (ICDS,MCH,EPI etc).

3. PREVENTIVE AND SOCIAL ASPECTS

Essential demographic facts,special problems of children in rural areas and urban slums mortality and morbidity and their major causes. Family planning and child health, advantages of birth spacing, disadvantages of large families. Available special health services for children in the region. At-risk concept. Immunisation : basic principles, schedules, storage, cold chain, absolute contraindications and fallacies.

4. THE NEWBORN

— Normal newborn and events during neonatal period.
— Problems of low birth weight babies at home and community.
— Common causes of morbidity and mortality.
— Perinatal asphyxia and its consequences.
— Birth trauma—recognition and referral.
— Neonatal jaundice–common causes and genesis.
— Sepsis in newborn.
— Early recognition of life-threatening anomalies and illnesses (e. g., septicemia, tetanus, oesophageal atresia etc.)
— Recognition of danger signals in the newborn.
— Common respiratory problems, their recognition and management.
— Feeding of normal newborn with special reference to the first feed in relation to hypoglycemia.
— Drug therapy in newborn.
— At-risk concept in pregnancy and newborn.

5. COMMON SYMPTOMS & SIGNS AND THEIR DIAGNOSIS

Fever, crying, failure to thrive, pallor, edema, failure to move a limb,anorexia, vomiting, diarrhoea, abdominal pain, abdominal distension, bleeding per rectum, constipation, acute abdomen in a child, jaundice, cough, stridor, wheezing, breathlessness, cyanosis, headache, stupor and coma, convulsions, failure to pass urine, frequency and polyuria, passage of coloured urine (haematuria etc), abnormal urinary stream, joint swelling and pain, bruises, purpura and petechiae, hepatomegaly and splenomegaly, lymphadenopathy, stunted growth and delayed development.

6. COMMON SYSTEMIC DISEASES IN CHILDREN

Listed below with special reference to their clinical recognition and management in hospital, health centre and home, their prevention where, possible and point of referral.

— Diarrhoea with special reference to dehydration, recognition and management with special reference to oral rehydration.
— Hepatitis, Indian childhood cirrhosis and cirrhosis in children, hepatic failure.
— Acute respiratory infections, suppurative pulmonary disease (bronchiectasis, lung abscess), foreign body inhalation, asthma and asthmatic bronchitis.
— Meningitides, encephalitides, encephalopathy, epilepsy, myelitis, polyneuritis, poliomyelitis, intracranial space occupying lesions (general features, diagnosis, referral), hydrocephalus, chorea, cerebral palsy, mental retardation, subdural effusion.
— Rheumatic fever and heart disease, recognition of acyanotic and cyanotic congenital heart disease, pericarditis, myocarditis. hypertension, congestive cardiac failure.
— Acute glomerulonephritis, nephrotic syndrome, urinary tract infections, renal calculi, tumors of kidney (Wilm's), common congenital malformation of urinary tract, acute and chronic renal failure.

— Rheumatoid arthritis.

— Anaemias (congenital and acquired), leukemias, purpura and hemophilia.

— Undescended testes, pituitary disorders (gigantism, dwarfism, hypogonadism, diabetes insipidus), thyroid disorders (cretinism, juvenile myxedema), Diabetes mellitus, adrenals (adreno-genital syndrome, adrenocortical insufficiency).

— Common poisonings and accidents in children.

— Common behavioural disorders in children met with in practice such as breath holding pica, eneuresis etc.

— Minor surgical problems, surgical emergencies recognition and timely referral.

7. COMMON SPECIFIC INFECTIONS IN CHILDREN

(Clinical recognition management and prevention).

Measles, whooping cough, diphtheria, mumps, poliomyelitis, rubella, chickenpox, typhoid, dysentery (amoebic and bacillary), tuberculosis, leprosy, tetanus, malaria, infective hepatitis, rabies, worm infestation (roundworm, threadworm, hookworm, tapeworm, filariasis, guinea worm).

SKILLS

(Practical and clinical procedures)

1. The student should be able to take a good but relevant history, conduct a clinical examination, demonstrate physical findings and explain their significance. The student should be able to make a provisional diagnosis and indicate major differential diagnosis, prescribe routine investigations and carry out basic management.

2. The student should be able to do the following :

— Assessment of nutritional status of mother and child.

— Weight, height, head circumference and mid-arm-circumference measurement, interpretation of growth curves.

— Development assessment in children below 3 years.

— Venepuncture.

— Throat, nasal, rectal swab.

— Intradermal test

— Immunising procedures.

— Enema.

— Side-lab. investigations.

— Interpretation of common X-rays.

— Feeding techniques

— Oxygen therapy (catheter and mask).

3. The student should have observed the following procedures in children : Venesection; I. V. infusion; lumbar puncture; paracentesis (abdominis/thoracis); preparation of patient for radiological procedures, bone-marrow aspiration; biopsies, intubation; exchange transfusion; postural therapy.

4. Newborn

— Receiving the newborn, transportation during referral.

— Ressuscitation including suction, Ambu bag and endotracheal intubation (learnt from still births)

— History taking and physical examination and recognition of gross deviations from normal, estimations of gestational age and distinguishing term from preterm babies.

— Starting an I. V. line, umbilical vein catheterisation.

— Aseptic technique in newborn care.

II TEACHING METHODS

It was appreciated that the methods of teaching employed must take into account the constraints of time, faculty-student ratio, equipment and a large course content. Under the circumstances it was agreed that even though the lecture method was relatively ineffective, yet in view of the constraints enumerated, it could continue and therefore efforts should be made to improve the lecture technique through improving competence of teachers and techniques e.g., by providing hand-outs, including references and factual information, limiting the lecture to essence and concept; demonstrating material and patients, effective use of the blackboard, judicious use of slides, help as to where further information could be obtained involving students by raising question and splitting the lecture.

With respect to clinical teaching it was felt that the under-graduate was inadequately prepared in techniques of history writing and clinical examination when he arrived for posting in the pediatric department so that he could not benefit adequately from the learning experiences provided in the department. To strengthen this aspect of teaching it was agreed that the pediatric faculty should offer its services to the institution outside the teaching time alloted to pediatris. In view of large batches required to be taught at the bedside, it was felt necessary to have adequate physical facilities in a room adjacent to the children's wards for students and teachers to sit around a patient for facilitating demonstration and discussion. Clinical teaching could be done through the symptom complex approach by discussing a number of patients of the same symptom/sign in a clinical session as well as by taking up individual disease entities. Teaching in the OPD was considered desirable provided that teaching and services were separated so that the teacher not conducting services on that particular day could be made available for the purpose.

Group teaching was considered useful and effective and could include socio-medical 'conferences' and demonstration of emergencies and techniques. 'Tutorial group' could replace didactic teaching as far as possible.

Since sensitizing students to socio-medical care including problems of the handicapped was considered desirable, visits to PHC and institutions like schools for the handicapped, creches, anganwadis etc. supported by group discussions was recommended as a learning experience in collaboration with respective departments and agencies.

It has been generally agreed by various expert groups (WHO etc.) that a minimum of 300 hours is absolutely essential to do justice to a curriculum in child health. However, time available to the pediatric departments in most institutes in the country does not exceed 250 hours. Until such time as the optimum hours become available to the department of pediatrics the distribution is recommended as under :

A] Lectures : Hours

i) By the department of pediatrics [weekly lectures during the final year] ...30

ii) Integrated teaching in structure, function, pathology, immunology, etc., with the preclinical depts. [10 hours], department of community medicine [10 hours] & obstetric & gynaecology [10 hours] ...30

B) Clinical teaching : 12 weeks posting.

[4 weeks junior and 8 weeks senior], approximately 5 working days per week, effective teaching 3 hours per day [60×3=180] ...180

This includes 5 morning sessions[15hours] for socio-medical conferences on the pattern of "small group discussions".

C) Visits to the community & field practice areas, 3 hours per visit, totat 3-5 visits. ...15

D) Evening tutorial group [clinical clerkship] ...45

The topic-wise time distribution at the institution and departmental level can be worked out depending upon local needs and convenience.

Curriculum organisation [please see under 'Course Content'].

IV STUDENT ASSESSMENT & COURSE EVALUATION

The group unanimously felt that the overall assessment of the student must take into account not only his performance in the final examination but should also provide adequate weightage to regularity, performance of assigned work, clinical records and assessment carried out at the end of the clinical posting [alloting marks to each] to ensure as far as possible that the final examination does not become a mere obstacle course. Thus, as much as possible of the students' work and performance should be brought up to the Final examination.

In the assessment of students' knowledge at the final year examination, a balanced combination of objective (M. C. Q.) short-answer and essay-type questions should be set. It was felt that setting of objective-type questions required experience and hence the need to improve competence of teachers. At the Final clinical examination, the group felt that effort should be made at as objective an assessment as possible. Evaluation should not be heavily clinically oriented but be broad-based to include related nutritional, developmental, preventive and socio-cultural aspects in relation to patient management problems.

Evaluation of each training session at the end of the postingwas considered necessary. This could be done through analysis of periodic feedback by the students and discussions among members of the pediatric faculty. Such an ongoing exercise could ensure improvement of subsequent training programmes.

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MINIMUM REQUIREMENTS RELATED TO UNDERGRADUATE TEACHING IN PEDIATRICS

The group strongly felt that a separate set of recommendations listing minimum requirement be submitted for consideration of the Central Executive Committee of the I.A.P. for persuing the appropriate authorities [Government of India, Medical Council of India, Universities, etc.] to make provision for these requirements. Without these it was felt, justice cannot be done to the undergraduate curriculum in Pediatrics.

I. TIME

It was felt that a minimum period of 300 hours is required for imparting reasonable knowledge and skills to the undergraduate student. The recommendations of Medical Council of India provide for a minimum clinical posting of 3½ months in Pediatrics but most institutions do not even fulfil this recommendation. It was recommended that in addition to 3½ month clinical posting and 40 lecture hours the following provision be made :

[a] 30 more lecture hours during the period spent in the 1st, 2nd and final professional years for the teaching of—

(i) Anatomy and Physiology of the child [10 hours]

(ii) Related Pathology and Pharmacology [10 hours]

(iii) MCH & Community Medicine jointly by teachers of Pediatrics and the related disciplines in collaboration. [10 hours]

[b] Five field visits.

[c] Compulsory 15-day student emergency duty (like labour duty in Obstetrics and Gynaecology).

II. Staff, equipment and facilities.

It is time now that the legitimate share of staff, equipment and facilities due to the Departments of Pediatrics be provided to bring them at par with those of Medicine and Surgery for reasons of priority justified as under :

[a] **Pediatric faculties**—in Medical Colleges have a number of responsibilities other than those of a routine nature. The pediatric departments are involved in national programmes like MCH,EPI,ROME,ICDS etc., over and above its teaching and heavy service load. It is well nigh impossible for 4-6 staff members of the faculty (which is the staff in position at present in an average size medical college in the country) to do justice to all these activities. With rapidly increasing demands on the staff, expansion of Pediatric faculties has never been considered so far. The group very strongly felt that appropriate action at all levels be launched to ensure that Pediatric faculties in Medical Colleges are expanded so as to bring them at least at par with those in the Departments of Medicine and Surgery.

(b) **Ancillary staff**—Commensurate with such expansion ancillary staff will also need to be expanded accordingly.

(c) **Beds and equipment**—Over 40% of the population is constituted by children and over 60% of patients in a doctor's routine day's work are children, yet only about 10% of beds in teaching hospitals are available for children. Besides, in view of

high morbidity and mortality and acute illness among children, the turn-over rate per bed is 2–5 times that of adult beds so that the total number of patients treated per year on the same number of beds is 2-3 times higher, Often floor beds and 2 children per bed have to be accommodated. Since medicines and equipment are often allocated in hospitals on bed strength supplies of mediume and equipment these fall short of requirements.

(d) **Representation at various levels**—Representation of the department at the level of college, university, government and M. C. I. is inadequate and results from the small size of Pediatric departments and faculties inspite of the heavy demands to which they are put [vide supra]. Expansion of the departments, as requested, will automatically improve representation.

III. ASSESSMENT

In the context of national priorities and demands on a graduate doctor in respect of child health, a separate assessment in Pediatrics in the final year at par with Medicine and Surgery was strongly recommended. Until this could be implemented, in the present situation the student should be required to pass independently in the Pediatric section of the final M.B.B.S. exmination.

In conclusion : The group felt that in view of justifications enumerated above the least that could be done for Child Health and its teaching is to bring Departments of Pediatrics in Medical Colleges in India at par with the Departments of Medicine and Surgery by providing the minimum staff, beds, equipment and other facilities provided to the so called 'major' departments in Medical Colleges in the country. Delay in providing these could be a serious deterrant to national progress and development of human resource material.

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"In the dissonant chorus raised by the critics of contemporary education many themes can be identified. One with great popular appeal is the ringing cry that teachers are born, not made. From this refrain an argument is derived that time devoted to the training of teachers is not only time wasted but also an obeisance to the devil. It would be pointless to deny that some teachers may indeed be born to greatness, but the nature of their breeding is still a mystery, under these circumstances wisdom demands that more careful and more thoughtful attention rather than less be given to preparation for the role of teacher of those born without this endowment".

G. E. Miller

"The conviction is widespread in institutions of higher education that anyone can teach and that any teacher who knows his subject can use the tools of education. The inaccuracy of this conviction must be clear to anyone who has ever been a student. The skill of teaching like most others is not inborn but results from thoughtful study".

G E Miller